

ABSTRACT OF THE DISCLOSURE

A method of producing parts from powdered metal comprising the steps of providing a metallurgic powder comprising iron, 0-1.5 weight percent silicon, 0.4-0.9 weight percent carbon, 0.5-4.5 weight percent nickel, 0.5-1.0 weight percent molybdenum, 0-0.5 weight percent manganese, and 0-1.5 weight percent copper, the weight percentages calculated based on the total weight of the powder. Next, the metallurgic powder is compressed at a pressure of 25 to 65 tsi to provide a green compact with a density of 6.4g/cc to 7.4g/cc. The compact is high temperature sintered at a temperature of 2100°F to 2400°F. Then, the compact is selectively densified to greater than 7.6g/cc. The compact is sinter hardened to obtain a mainly Martensite microstructure. The compact can be directly high temperature sinter hardened if selective densification is not necessary. Material made by this method is also disclosed.